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ABSTRACT

This report, adapted from "Development of an Instrument to Evaluate College Classroom Teaching Effectiveness" by W. W. Ronan, puts the emphasis on the "student" evaluation of teaching performance. Two reasons given for this are: (1) The students are in direct relationship with teachers and can and do observe actual teaching and all its behavioral elements; and (2) There is evidence to show that observers and students do not agree on teaching performance. The critical incident technique (CIT) has been applied to college teaching in four separate studies including this one. A wide sampling of incidents of "best" and "poorest" teacher performances in their general dealings with students, was collected. These were put into two categories, Effective Behaviors and Ineffective Behaviors, with six subcategories under each. The subcategories under the major headings are: Personal Relationships With Students; Classroom Administration; Student Participation; Classroom Presence; Organization and Presentation of Material; and Evaluation of Student Performance. The Evaluative Behavioral Statements questionnaire is presented along with a bibliography and current ERIC entries on related subjects. (See ED 056 647 for the original document.) (LS)

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Putting
Research into
Educational
Practice

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Evaluating College Classroom Teaching Effectiveness

PREP Report No. 34

AA001000

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/Office of Education
National Center for Educational Communication

IPRIP

PUTTING RESEARCH INTO EDUCATIONAL PRACTICE

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Evaluating College Classroom Teaching Effectiveness

PREP Report No. 34

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE/Office of Education
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Evaluating College Classroom Teaching Effectiveness

Introduction

The general area of personnel performance assessment is one of the most difficult in all of psychology, particularly when few or no tangible products result from the performance effort. This condition describes the area of college teaching. In the classroom, a course is "taught"; student learning usually is evaluated with some sort of test, but there is little to indicate the contribution of the teacher to any learning that may have taken place. It is possible that learning occurred in spite of, or because of, the particular teacher.

As a basis for any "improvement" of college teaching, recruitment or training of qualified personnel, or any other such personnel actions, a performance assessment method should be developed as a requisite for determining who is and who is not an effective teacher. Actually it is not likely that there will ever evolve a dichotomous evaluation as implied in the previous sentence, but persons will vary by degree of effectiveness as teachers. Further, in such complex work, there are likely to be several performance dimensions, and probably no specific individual will be outstandingly effective or ineffective in all of these. In fact, it is possible that some dimensions can be mutually exclusive in that if a person is effective in one dimension he is necessarily ineffective in another. In any case it is necessary to develop an assessment procedure for a given performance before it is possible to recruit and train for it or devise methods to improve it. No systematic personnel procedures are possible without there being available some adequate criterion to evaluate the performance in question (*Ronan and Prien*, 1966, 1971).

This research study was intended as a basis for developing a device to measure college classroom teaching effectiveness. A review of some of the relevant literature indicated that most past efforts to evaluate college teaching had used some sort of rating form, and the results were quite ambiguous. However, three studies using the critical incident technique showed some promise for developing an evaluation device, and this technique was used here.

Students at Georgia Institute of Technology, Atlanta, identified some 3,000 incidents describing "best" and "worst" teachers. These incidents were categorized into behavioral areas describing the dimensions of effective and ineffective teaching. The results were quite similar to those from other critical incident studies.

The general conclusion of the study is that a taxonomy of teaching behaviors has been isolated and that these behaviors can be described using the behavioral statements contained in this report. The behavioral statements can be used to describe effective and ineffective teacher behaviors as seen by students.

Note.—This report was adapted from the final report of a project funded under the Regional Research Program of the Office of Education. The final report, entitled "Development of an Instrument to Evaluate College Classroom Tearching Effectiveness," is available from the ERIC Document Reproduction Service, P.O. Drawer O, Bethesda, Md. 20014 in microfiche (65 cents) and hard copy ($6.58). Order by accession No. ED 056 647.

SOME RELEVANT RESEARCH

Research on college teaching effectiveness has been conducted for decades; and there is substantial agreement that the results are tenuous, ambiguous, or contradictory. However, there is equal agreement as to the major function of teaching: this is the ability to assist students toward agreed upon educational goals.

Evaluation of teaching effectiveness immediately entails some measurement of student performance. Such measurement demands some statement of goals; that is, what performance is expected of students? These goals appear to fall under two broad headings. The first of these is student achievement. The inference from this goal can largely be described as covering the cognitive domain and refers primarily to student learning. In any specific situation, learning could encompass subject matter particulars, broadened perspectives in an area, relations to other fields of topics, techniques of problem solving, or many other specifications. The basic point is that, if teacher performance is to be evaluated, it is essential to provide simultaneous evaluation of the performance of students being taught. In essence, what is the objective (or objectives) to be measured?

The second area of student performance can be summarized under the rather ambiguous term of attitudes. To make this rubric operational there must also be some agreed upon measures. One might measure interest in this course, general opinion of this professor, possible changes as increased interest in the discipline, or changes in personal perspective. There are numerous possibilities in the area concerning measurements of student attitudes, and selection of a specific measurement would depentd upon the research problem of interest.

Once the measures of student progress have been agreed upon, the next consideration is a measure of teaching effectiveness. As Barr et al. (1953) have stressed, the need is to determine not *who* is an effective teacher but what teaching *behaviors* are effective and ineffective with respect to attaining some established educational and institutional goals. That has been the major effort of this research.

Any comprehensive review of the literature concerned with the evaluation of teaching would require years of effort, as shown by the bibliographies compiled by Barr and Jones (1958), Dorcas and Tiedman (1950), and Eells (1967). The latter comprises some 2,300 titles. In addition, the major effort of research on teaching effectiveness has been concerned with primary and secondary schools with results which may or may not be applicable to college teaching.

This concentration of research effort has been shown in a comprehensive literature review by Morsh and Wilder (1954). These authors reviewed some 900 primary sources and included in their final review almost 400 as selected by their criteria for presentation. The monograph discusses criteria for teaching effectiveness and the relation of various pupil and teacher characteristics to these criteria. Some of the more important results from the studies might be summarized as:

- A wide variety of measures were employed in the various studies, and there was a lack of replication of most of the findings.
- Ratings of teacher effectiveness tended to be reliable but were not related in any substantial way to objective measures of teacher performance. In particular, ratings by administrators show low correlations with objective measures, for example student "gains" as measured by various tests.
- The difficulties of using student gains as criteria were pointed out, statistical problems receiving the most emphasis.
- Predictors of teacher effectiveness such as intelligence, college grades, various "national teacher tests," aptitudes (Knight, Coxe-Orleans, Stanford), and personality measures showed varied and tenuous relationships with any criteria.
- A suitable criterion for teaching effectiveness must take into account student gains (the objective of teaching); the measure should be objective (here the possible utility of controlled ob-

servations is stressed); and a composite or global criterion of teaching effectiveness is, as of now, unlikely.

- Prediction of teaching success and teacher training will only make progress as a suitable criterion of teaching effectiveness is developed.

In reading the report, one is struck with the tremendous amount of effort that has been expended on teaching research and, at the same time, by the lack of real progress in the area from the time when the report was given to the present, as shown by the research subsequently presented.

As in all organizations, the performance of job incumbents in faculty positions is constantly being evaluated in a more or less formal way. On the basis of such evaluations, administrative actions, such as promotions and salary increases, are made. A study by Gustad (1961) presented results of a survey by the Committee on College Teaching of the American Council on Education. The data were taken from replies to a questionnaire concerned with procedures and practices involved in faculty evaluation. Some of the general findings were:

- Classroom teaching was said to be the most important factor in any evaluation. Personal attributes such as cooperative spirit, loyalty, church membership and activity were of secondary importance.
- It was found that with few exceptions all evaluations were based on hearsay. The data sources were informal student opinions, formal student opinions (ratings), classroom visitations, colleagues' opinions, and opinions of chairman and deans. It was pointed out that the validity of these opinions is unknown. A quote from the study summarizes the situation: "It is apparent that little is done to obtain anything that even approaches sound data on the basis of which reasonably good evaluations of teaching can be made. This being so, complaints that classroom teaching is paid only lip service must be to a considerable extent accepted as correct." (p. 205)
- "Extra diligence" by the teaching staff was evaluated by examining the amount of student counseling, advising, committee work, etc.

In general about one-half of the institutions reported they were dissatisfied with their evaluation methods. The most often made suggestion by the respondents was that some method for evaluation classroom teaching was needed.

The most detailed and wide-ranging discussion of teacher effectiveness has been presented by Barr et al. (1953). As mentioned earlier all educational personnel actions require defining a "good teacher," and these authors brought out a point most relevant to the present study—what is required is not criteria for determining who is an effective teacher but rather for determining what is effective teaching behavior. The authors cited Bloom's (1965) *Taxonomy of Educational Objectives* as a definitive statement of educational goals with respect to guiding research efforts; however, there was also recognition of "staff" functions. It was recognized that statements as to effective and ineffective teaching are required, and the main body of the article was a rather detailed description of the requirements for adequate research to solve the problems posed. The general formulation was to state some specific and measurable objectives and then assess teacher behaviors as directed toward the attainment of such objectives in all teacher task requirements. The three broad areas of teacher responsibilities were seen as work with students, tasks as a teaching staff member, and functioning with relation to the community at large.

By far the most common procedure used to evaluate teaching performance has been the use of some sort of rating scale. In such studies the rating instrument employed has been the Purdue Rating Scale for Instruction, the Miami University Instructor Rating Sheet or some locally developed measure.

As will be noted throughout this report, the emphasis is on *student* evaluation of teaching performance. There are two reasons for this. First, the students are in a direct relationship with teachers and can and do observe actual teaching and *all* its behavioral elements. Other observers can only see a limited sample of a given teacher's behavior. Second, there is evidence to show that observers and students do not agree on teaching performance.

Critical Incident Studies of Teaching Performance

The critical incident technique (CIT) was developed by Flanagan (1954) for the specific purpose of creating performance measures to evaluate performance effectiveness. Basically, the technique gathers information from persons who observe performers in a given job. The observers are asked to describe incidents where they observed particularly effective and/or ineffective performance. Interviewing is continued until a usable incident is obtained. Usable is defined in terms of:

- The behavior must be some objective behavior that all observers can agree did or did not occur; for exampie, a professor failed to meet his class three sessions in a row without informing the class members of his absence.
- The behavior must be related to the aims and goals of the activity.
- The behaviors to be collected must be gathered by following identical rules and procedures for all interviewers.

Incidents are collected describing the behavior in question and then categorized. The procedure consists of reading the incidents and sorting them into groups of similar behaviors. The categories are then named with regard to the behaviors described. With professors, for instance, there is likely to be a category regarding grading practices.

Two checks are available for the entire process. The first consists of having two or more persons categorize the incidents and then to calculate the percentage of agreement to give a measure of reliability. The second is to "hold out" a fixed percentage of the incidents until classification is completed. The held-out incidents are then read and placed in their proper categories. If the categorization has been adequate, no more categories should be needed for the new incidents.

This complete procedure results in a form that describes, in objective and reliable terms, both effective and ineffective behaviors for the job or activity in question. Usually they are placed in a "YES-NO" format, that is, did the behavior occur or did it not? There is no inference or value judgment required of the observer. With the evaluative form developed, it is possible to obtain an objective and fair evaluation of the job performance of any incumbent. The technique has been successfully used for many types of jobs—e.g., airline pilots, foremen, dentists, research scientists, aviation instructors—and even for setting ethical standards (Flanagan, 1954).

The CIT is specifically designed to determine the effective and ineffective behaviors in any given field of endeavor. It has been applied to college teaching in four separate studies, including the present one. The results are in close agreement with these individual efforts in terms of isolating and describing specific, objective behaviors that are noted by students. Moreover, in one study (Douglas, 1968), the behaviors have been shown to be predictive of student achievement.

This study has taken a broader perspective of the domain of teacher effectiveness and has added some behaviors to those already discovered. It is submitted that the lists of behaviors that have been presented from the four studies form a "pool" of behavioral items that will evaluate teaching effectiveness. They *do not* pertain to the faculty member performance in terms of research productivity nor effectiveness in staff functions. Those behaviors remain to be investigated, but the behaviors do measure what is generally agreed to be the most important teaching duty—teaching ability. In general, they comprise the important dimensions of teaching and the individual items, a taxonomy of relevant behaviors. They ask the "right questions" mentioned by Gustad (1964), Arden (1968), and Langlen (1966).

If human behavior is to be more fully understood, it is a basic requisite that performance be studied and adequate measures of all *performances* developed. From such performance measurements it is then possible to infer or construct appropriate selection, placement, and training methodologies and devices. Without such performance measures, one is groping in the dark. The CIT seems to offer the basic methodology to collect the relevant data and to construct such performance measures. In the research reported below, the attempt was made with the CIT to determine all the dimensions of teacher behavior as seen by students, not just those relating to learning. This was done by collecting a wide sampling of incidents of "best" and "poorest" teacher performances in their general dealings with students.

EFFECTIVE AND INEFFECTIVE TEACHING BEHAVIORS

Introduction

Students do react to professors both negatively and positively. The incidents reported in this survey show that teachers have quite an important effect on students both in terms of student attitudes and perceived achievement. The categories and subcategories developed from the reported incidents are described individually below, along with some hypothesized effects on student achievement and attitudes.

Effective Behaviors

The first effective behavior category, "Personal Relationships With Students," has been mentioned fairly frequently in past studies. It covers behavior both inside and outside the classroom. The subcategories are presented by number in parentheses ( ) and discussed:

(1) Knows each student by name—both in class (calling on students) and out of class (greeting students). To some degree a lack of this behavior is a reflection of the machine-like nature of higher education with its large classes and impersonal lecturing, testing, and grading. In such a situation, the professor cannot learn student names unless he makes a deliberate attempt to do so. Students do consider this behavior of importance; it appears to be a somewhat pathetic appeal for personal recognition. Possible effects on student achievement are questionable, but student attitudes are patently affected.

(2) Mingles with students before and after class. This refers to a "socializing" sort of behavior. Generally, the category might be regarded as "fraternizing" with students and, while not related to student learning, probably has effects with regard to student attitudes toward faculty.

(3) Holds social events for his students. This is probably a rather controversial behavior with regard to student-faculty relations and is rather uncommon. As noted in subcategory (1) above, at least some students regard closer acquaintance with faculty as important. It is possible that only the more dependent students consider this important, but at present one can only speculate as to the personal correlates and importance of such behaviors.

(4) Gives (encourages students to ask for) advice and assistance regarding personal problems and goals. This subcategory covers two behavioral aspects. The first is sheer availability in order to talk with students and the second, is giving advice or help in solving personal problems: This behavior is exhibited not only at student request, but some professors actively encourage students to come to them for help. It is not a common faculty behavior, but is probably a quite important one with regard to favorable student perceptions of faculty members (and learning).

(5) Discusses (answers questions about) extraclass issues with students. This is a rather rare behavior by faculty members, and its effect on student attitudes or learning is unknown. Very likely the effectiveness of such behavior is related to both what is discussed and how it is discussed. As will be seen in the examination of ineffective behaviors, students do not like rambling talks. They see them as a waste of time, even to the extent that the "professor is making a fool of himself." It appears the behavior can be effective but only when properly done.

(5) Compliments a student on a good response. This is a very rare behavior. A fairly common faculty practice is to exempt high scoring students from the final examination, but outspoken complimenting is almost nonexistent. The actual effectiveness of compliments with regard to student behavior probably would not be of major importance but could hardly have any but positive results. Certainly, students must answer questions in a way deserving of praise, at least sometimes: but there is no indication in incidents reported that such answers are ever evaluated. It would seem that a small effort here by faculty members could result in a more favorable learning situation, if nothing else.

(7) Explains answers in detail to all (and encourages) questions asked by students. The emphasis here on "all" should be noted. This is an important behavior to students and they react quite positively. The general behavior is that an effort is made to answer any question that might be asked even if they are "dumb" or

keeps individual appointments. There is also the facet of determining that students do, in fact, understand the material and, finally, willingness to meet at odd or inconvenient times to give individual help. The entire complex of behavior indicates a sincere interest in student learning and willingness to make every effort to insure that they do learn. Again, it could be hypothesized that this behavior, willingness to give individual help, would have a sizable effect on student learning. In fact, this may be a key behavior in differentiating between the effective and ineffective teacher. The same effect would probably be found in terms of student interest in and attitudes toward the course.

The entire category indicates that student-professor personal relationships can vary over a tremendous range of behaviors. The underlying determinant would appear to be a sincere interest in student learning and welfare on the part of the individual professor. This is shown by active encouragement on the part of individual professors to induce questions or appeals for help. This not only is related to actual classwork but also extends to personal problems ranging from relatively trivial things, such as loaning students small sums of money, to important effects on course understanding and learning.

The second effective behavior category is entitled "Classroom Administration." The subcategories are described below:

(1) Extends time limit (change dates) on assignments and quizzes. This behavior refers to extension of time or date changes largely because of some contingency conditions. This is infrequently reported possibly because it occurs infrequently. The indication is both of an appreciation of student workloads and a flexibility with regard to course requirements. In effect, there is a recognition of priorities with regard to other course requirements, student stress, and personal course requirements. The more flexible person is willing to change plans and demands to adjust to unforeseen contingency factors. Very likely this has positive effects on both achievement and attitudes.

(2) Informs class of days he will be absent or will make changes in plans. Again, this is a very small category possibly because few faculty members exhibit such behaviors. Ob-

viously, there would be occasions when it would be impossible to let students know of changes in advance, but there seems to be little effort to do so at any time. With such infrequent occurrences, it would be difficult to determine the effects of the behaviors in this category on students. It would be hypothesized that they would be minor.

(3) Begins and ends lecture on time. Again this is an infrequent incident, possibly because it is a rare professor whose habitual pattern is described in this way.

(4) Distributes or details a study plan the first week of class outlining the course requirements. Many incidents are dual, covering this and the next category. The behavior seems to be more uncommon than one might suppose, or students regard it as routine and do not report it, probably the former. No doubt this assists student achievement.

(5) Follows course syllabus or lecture outline as scheduled. The two categories (4 and 5) together constitute a sizable percentage of the incidents in the category. Strangely, lack of this behavior receives scant attention under the reported ineffective behaviors. Some students apparently regard a detailed course description and adherence to its schedule as an effective behavior, but absence of these behaviors is not remarked. It could be hypothesized that this behavior on the part of faculty would have relatively important effects, particularly, on student achievement.

(6) Gives examples of quiz items or what to expect on quizzes in class. Again a small category; however, students do seem to appreciate the effort made. The small number of incidents is probably due to the rarity of this behavior. It is interesting to speculate what effect this behavior might have on students. The hypothesis would be that better grades on quizzes could be expected, particularly where sample questions have been discussed in class.

(7) Keeps old quiz questions on file for student inspection. Again a small category. The comments for the above subcategory apply here.

(8) Requires and grades homework. This behavior of requiring homework constitutes one of the larger subcategories and is seen as both effective and ineffective; however, graded homework is generally seen as important in helping a student learn. Potentially, if homework is assigned, graded, and discussed, it would indicate student learning and general class progress. From the number of incidents reported this is a fairly common teaching device but as indicated, receives a mixed reception from students.

(9) Grades papers or quizzes promptly. Again there are relatively few incidents reported, and all deal with returning work no more than two class periods after it has been collected. The few incidents are due to the rarity of this behavior, as shown by the same subcategory under the ineffective behaviors. It is questionable that this behavior would have a real effect on student learning, but probably would be found to have a rather marked effect on attitudes toward the teacher.

This general area of teacher behavior has been described as "efficient," "business like," and so on. The behavior seems to indicate an organized and planned approach to the course but, at the same time, is flexible with regard to student needs. That is, the organized and planned approach is the more desirable but is not a major point; the student is. Students seem to notice the attempt at organization and appreciate it. It can probably be safely supposed that, in relation to the behaviors shown here, student reactions would be positive in contrast to those toward a teacher who exhibits a characteristically slip-shod approach.

The next category, "Student Participation," has received much lip-service but is generally so ill-defined as to be almost meaningless. The behavior described below seems to give some semblance of an operational definition:

(1) Permits students to determine part or all of course content and class policy. The behavior here is to ask students what they want to study or discuss and includes votes on class policies. The use of the participative techniques implied is limited to some degree by the course, but the use of democratic procedures is not. A fairly substantial percentage of incidents indicates that students do appreciate the participation. Whether or not it makes learning more effective is undetermined, but students did report heightened levels of interest under such participative procedures.

(2) Improves his course by making changes based on criticism requested from students.

This is a relatively small subcategory probably because it is so rarely done. It seems to be a rare occurrence when students are asked to directly evaluate a given teacher's performance. This critical function for self-improvement is likely to be the major utility of any teacher evaluation device, almost any teacher could probably benefit to at least some degree through opinion and criticism. As has been shown, both teachers and students tend to misperceive the other, and this is a possible tool of correcting such misperceptions.

(3)Schedules quiz at convenience of class majority. This is a relatively small subcategory probably because of the rarity of this behavior on the part of faculty. The general point of the reported incidents is that the nature of academic scheduling tends to make examinations, term papers, etc., fall on or near the same date. It is possible for students to have as many as four examinations scheduled for the same day. At the same time, these are in no sense absolute requirements, and some flexibility by faculty seems indicated. However, judged by the number of incidents, this seemingly simple accommodation is uncommon, although it is appreciated by students and probably affects performance (study time).

(4) Encourages group discussion, questions, and differences of opinion. This is by far the largest subcategory of the incidents. Apparently, this is a characteristic manner of conducting class on the part of certain faculty members and not others. There are a variety of behaviors that can be used to induce students' class participation and, from the number of incidents obtained, students seem to view these as effective. In particular, not allowing disagreement of views to affect teacher opinions of students seems to be a key factor. As will be seen under ineffective behaviors, not all faculty members are so affected. Participation seems to raise student interest in the course, and at least some believe they learn more in that way. However, the technique would seem to be limited by the subject matter under consideration. Inviting questions and personal experience might be appropriate in some cases, but in the case of highly technical subject matter, only invited questions are likely to be relevant. Another point is that some teachers are likely to be more effective using student participation than others. In general, while students seem to appreciate its usage, its effect on their achievement needs to be assessed.

(5) Seeks feedback from students, in particular on understanding material. The distinction of this subcategory from (4) above is the concentration on course materials. Specific questions are asked either on the material per se or generally as to an understanding of the course. The relationship of this teacher behavior to student learning seems apparent and very likely has positive effects on student motivation. The behavior seems to be one that could be adopted for any class and for any subject matter.

The fourth behavior category constructed was "Classroom Presence." It covers a somewhat heterogeneous set of behaviors and seems largely to involve both a knowledge of subject matter and a concern with personal characteristics in its presentation. It possibly is related to the "annoying habits" found in the study by Moore (1937). This category is a rather small one, probably because the positive behaviors shown *are largely taken for granted by students,* and are not as remarkable as the negative.

(1) Makes dramatic gestures (comments) to emphasize important points. This is a very small subcategory and apparently is not characteristic of faculty behaviors or, possibly, is just not remarked by students unless the behavior is extreme.

(2) Speaks in a clear, distinct manner; uses correct diction or both. Again this represents a small category probably because the positive behavior is expected whereas the negative is of importance and therefore more often remarked.

(3) Uses humor that stimulates class interest and attendance. This is the largest subcategory of these incidents. The number of reported incidents indicate that students appreciate the use of humor in lectures. The humor seems both to clarify and dramatize material, and makes the professor more "human" by inducing a relaxed and informal class atmosphere. Very likely, appropriate use of humor could be quite effective both in terms of student learning and teaching, particularly if used to stress important points. Obviously, it would be a difficult variable to assess in terms of prediction of student achievement; however, the large number of positive incidents reported

seem sufficient evidence of its importance to student learning and interest.

(4) Lectures without relying solely on (reading) notes or test. Only two incidents are reported here; and they are included to show the positive side of what appears in a large ineffective subcategory. Again it would seem the positive behavior is expected and not remarkable to students, whereas the negative is viewed as important.

(5) Uses language that students can understand (does not talk down to). The incidents reported under this category are not very well defined. For the most part, they say that the material is "translated" into "terms students can understand." This seems to be an important feature of lecturing, but is difficult to illustrate with appropriate behaviors. This is an effective behavior that probably would be recognized by students when it occurs but is difficult to specify because it tends to be material-oriented; that is, the specific behavior would differ by subject matter. In judging, it is also probable that there would be some variability among students with regard to those who could understand and those who could not. It would appear to be an item worth including in any teacher evaluation device, but needs further elucidation to clarify and objectify it.

(6) Personal appearance. Again this is a small category probably because the positive behavior is the norm; that is, most professors make a presentable appearance. In terms of student learning and interest it is probably a rather trivial consideration, but could have some effect on student attitudes toward a particular faculty member.

The fifth category, "Organization and Presentation of Material," is by far the most commonly reported of the effective incidents. It seems well within the realm of possibility that studies of effective teaching ultimately could be concentrated in this area, along with other behaviors desirable but not critical with regard to student learning.

(1) Begins each class with a review of previous work. Only a few incidents are reported here, probably because this is relatively uncommon faculty behavior, due to the assumption that students remember the last class topic of discussion. Whether or not such an assumption is warranted is questionable, but the practice would seem to be conducive to student learning and understanding.

(2) Stresses important points and general concepts in teaching. Here the reported behaviors named are to some degree specific to the particular subject matter; however, the general behavior was to intentionally draw attention to the basic or difficult ideas and concepts (often with the connotation that the material would be included in examinations). This subcategory is relatively small but the behavior could be hypothesized as important to student learning. Certainly from one's own experience, it is evident that knowledge of what to learn would enable concentration on these aspects and thereby save time and effort. Also it could be hypothesized that such teacher behavior, consistently exhibited, would result in superior student achievement.

(3) Puts important information on the board in a clear concise manner. It should be noted here that these are two behaviors. Both the information and its legibility are involved. On the ineffective side, a student complaint is that often blackboard presentations cannot be understood. This subcategory is related to (2) above and is a technique for stressing important points and concepts. The comments above apply to this behavior.

(4) Uses current and pertinent examples and illustrations to explain material. This appears to be a comparatively important behavior with regard to students seeing a professor as effective. The specific behaviors reported are quite heterogeneous, but the general theme is to aid understanding of the subject matter. Most of the incidents are nonspecific in that they describe habitual behavior of tying material to current events, presenting simplified examples, or showing relevance to a particular field. This seems to be a fairly common teaching practice according to the number of incidents reported. Again, examples and incidents would need to be specific to particular subject matter, but students seem to find the behavior of importance, particularly in clarifying difficult points. The probable relation to student learning seems obvious.

(5) Shows relevance of material to the "real world," the student's major, and/or student's outside interests or future. This is by far the largest subcategory. The particular behavior

seems to be an effort to arouse student interest by specifically pointing out the relevance of the classroom material to later life. Comments to the subcategory above apply here.

(6) Asks questions in class; stimulates thought and interest. This ancient teaching device (one student mentioned the Socratic method) needs little comment here except that it does not seem to be common. Where it is used, students seem to find it a refreshing change ("not just talk and write on the board"); and its effectiveness for student learning, interest, and attitudes needs to be evaluated.

(7) Admits when he does not know the answer to a student's question and provides the answer at the next lecture. Only a few incidents are reported here, but on the negative side this seems to be quite an emotional issue with students, especially where they feel professors are "making-up" answers. As far as this behavior is concerned, the author knows of no effort to assess its effects in terms of student behaviors. It might be hypothesized that students "test" professors by asking questions, and certainly respect for the professor as a person might hinge on the perceived results; but any behavioral correlates of this behavior remain to be determined.

(8) Lectures reinforce the textbook. Here only a few incidents are reported and are again rather general statements of habitual behavior. This behavior would be difficult to make objective in specific terms except in asking whether lectures closely followed the text or were presented as original material. Consequences of this behavior for student achievement are likely to be tied rather closely to the nature of the achievement measure used. For example, with tests involving largely factual material, the effects are likely to be minimal; but with achievement measures stressing conceptual and integrative learning, major differences in student achievement might be hypothesized.

(9) Supplements course (book) by using outside reference materials. The behavior here means actually bringing in and using outside material or referring students to such materials. This is a fairly substantial subcategory. The author would hypothesize that this behavior might be one of the more important in discriminating between an effective/ineffective teacher dichotomy. It seems to indicate a teacher is knowledgeable in the newer literature, and the inference is that he makes a conscientious and continuing effort to make his class more interesting. Effects on student behaviors would be hypothesized as quite sizeable.

(10) Distributes hand-outs and/or copy of class notes to supplement course (quiz). This seems to be a fairly common, but by no means universal, effective teacher behavior. The behavior seems so directly related to student learning that it is remarkable that it is not found to be more common. The functions are both to indicate important points and to induce increased student attention by eliminating the need for notetaking. Any empirical test of this behavior would hypothesize benign effects on all student behaviors.

(11) *Supplements lectures with visual aids (blackboard).* The behavior here is contrasted with that in category 3, above, in that only material of basic importance is put on the board by way of special emphasis. Other visual aids have this same connotation, although this may not always be the case. This behavior, of course, is limited by the availability of appropriate aids. Studies that have been done to evaluate the effects of such behaviors have indicated heightened student interest but only minor effects on achievement.

(12) Provides field trips. This time-honored teaching practice needs no comment here.

(13) Invites guest lecturers who are specialists on course topic. Probably most would agree that effectiveness is highly correlated with quality of the guest.

(14) Explains (works out) answers to quiz, homework, and class problems. The behavior here is to determine that students know the answers to all problems presented. This behavior is another that seems habitual with some professors, a teaching method. The key point is that no wrong answers are left uncorrected and, from the viewpoint of learning theory, this is quite a significant approach. In general, time is devoted to student learning rather than teaching, assuming the distinction is clear. The presumed effects of this behavior on student achievement would be of major importance.

(15) Does not regularly follow book or notes in his lectures (well organized and prepared). The inference from the behavior, in paren-

theses, is one students seem to draw from the incidents reported. This behavior does not seem to be the product of rote memory or sheer familiarity, but indicates a thorough preparation before the lecture is started. It seems to inspire confidence in students and could possibly be related to student learning, although no real empirical evidence is as yet available on the possibility.

(16) Uses department (personal) experiments, projects, or work to stimulate student interest. The behavior is a fairly limited one and has to do with relating course material to current activities, usually research. The primary intent seems to be to arouse student interest and, from the incidents, is effective in doing so. It was not mentioned, but this behavior might well be effective in motivating students, especially majors in the subject. It would even be possible to prepare formal descriptions of ongoing work for distribution to students in order to stimulate and motivate them. The hypothesis would be enhanced interest and achievement.

(17) Has full (or personal) command of subject matter. This is a rather difficult evaluation for students to make, but they seem to do so. One could quarrel with the assumption that such behaviors as not needing notes and always being able to answer any questions are indications of knowledge, but students do make these inferences. Testing them would not be overly difficult even though their relation to student behaviors might remain nebulous. The subject matter knowledge-teaching effectiveness relationship would be a particularly interesting subject to study. Such results as exist now are both scanty and contradictory.

(18) Reviews material before a quiz or assignment (study guides, assigns similar problems). This is a small category. Such behavior requires extra effort on the part of faculty members but probably results in better student achievement. What is not wanted is deliberate "coaching" for a specific test, but proffered guidance certainly seems a desirable and quite probably an effective behavior from the student viewpoint. There would seem to be every reason to encourage such behavior by teachers.

(19) Pace of lecture can be followed (to take notes). This behavior with relation to students seems quite apparent. It is a deliberate effort by a professor to keep his lecture pace at a rate which allows students both to follow the material and take appropriate notes. Only a few incidents were reported; it is possible that only a small subgroup of students require the noted slower lecture pace.

The sixth and final behavioral category, "Evaluation of Student Performance," is one which possesses the most emotional potential. Since faculty behaviors have direct and immediate effects on students, they understandably are quite concerned. The concern takes the form of knowing how evaluations are made, the methods used, and grading adequacy and fairness. In addition, there is the use of such results and professor willingness to examine his own evaluation practices. The importance of this category by students might be inferred from the number of incidents reported. In addition, it might be well for teachers to realize that, as they object to unqualified or unfair evaluations of their performance, students have the same feelings.

(1) Tests based upon lectures, text, and/or homework (announced and relevant). This is by far the largest subcategory. If performance evaluation is to take place, it seems an obvious requirement that a student should be tested only on material he could be expected to know. However, as seen in the number of reported incidents (and the later ineffective reports), the behavior brings out student comment indicating effective teacher behavior. The basic requirement of any performance measurement is relevance, and here students are by implication saying that this is so rare as to bring out special comment when it occurs. As any faculty member knows, student complaints about tests are common and usually shrugged off. The data presented here indicate that the student complaints may have some real basis in fact and are not just defense mechanisms. A consideration might be some faculty training in psychometric principles or, possibly, professionally constructed tests. There is little doubt that this area is of serious importance to students and warrants careful thought.

(2) Tests require knowledge of principles rather than dependence on memory alone. Only a few incidents are reported here, possibly because the behavior is so rare. Construction of some tests is difficult, particularly in the more abstruse subjects, but the point is to test on material learned. This, in fact, might serve as

a definition of learning but apparently is not always tested. Previous comments about test construction apply.

(3) Gives take-home final and/or open book quiz (use of class notes). The effectiveness of this type of evaluation is likely to be a point of sharp controversy. It is an open invitation to cheat but is also an opportunity for students to show their mastery of the materials. The incidents offered were obvious, but the question as to the desirability of the technique is not. Its effectiveness as a teaching and evaluation device seems fraught with all sorts of difficulties, and any definite answers appear unlikely.

(4) Schedules quizzes at regular intervals. Only a few incidents are reported here and are seen as effective in terms of both "keeping up" and "knowing where you stand." Usually the quizzes are given weekly, and again this technique could be controversial. On the one hand these tests do allow self-evaluation but on the other they are a constant threat. The hypothesis here would be that certain student characteristics are the determinant of preferring or not preferring this practice.

(5) Writes comments (reviews) on returned papers and quizzes. Again, this is a small subcategory with obvious behaviors. The comments for the subcategory above apply here.

(6) Students with a high average are excused from the final exam. Again the incidents reported indicate that this is a somewhat unusual behavior. In terms of the incentive theory of learning, this is an appropriate behavior, particularly if a number of students achieving above a certain announced level of attainment would be affected rather than one or a few students.

(7) Students with low average are permitted to do extra work (test). Again, this is a small subcategory with obvious behaviors reported. This practice is appreciated but is not defensible in terms of student evaluation in that certain members of the class are evaluated on a different basis than others. If all are given the opportunity to improve their grades, the situation is different but there is no indication of this in the incidents. An equitable evaluation system requires the same standards applied to all participants.

(8) Disregards the lowest test score of each student (optional tests). The effects of this optional grading system on student behavior have never been assessed to the author's knowledge. Any hypothesized findings appear to be the sheerest conjecture.

(9) Permits makeup tests at individual's convenience. This is a fairly uncommon behavior. The students did not report their reactions to this sort of behavior on the part of professors; it would be hypothesized that the effects would be minor.

(10) Takes into account class participation, application, and/or effort in assigning final grades. Here if some measure of "interest", "participation", or "effort" is available, such a practice can be defended. However, there is still opportunity for subjective, even selective, grading even though students see this as effective behavior. The hypothesis would be that certain student characteristics would determine whether or not such behavior was seen as effective.

(11) Curves grades on the basis of class distribution. This is a fairly large subcategory, and the incidents given were related to relative rather than absolute evaluation of test scores. Although this is a recommended psychometric practice, it is uncommon, as will be shown in the ineffective incidents. Actually, there is no justification for not having grades determined by a scaling practice of some sort. Where a large proportion of the class is receiving low or failing grades as a result of some absolute standards, the difficulty probably is not attributable to the students.

(12) Does not penalize for class absence or tardiness (accepts excuses). This behavior by professors, not requiring attendance, is seen as effective by students mainly with relation to accepting excuses that are not officially sanctioned. Mentioned here is "trusting students." The incidents reported indicate a resentment of required class attendance. There are only indirect allusions, such as "never took roll" or "didn't count cuts," but these seem to indicate that students see the behavior as effective. It could be hypothesized that student attitudes toward such courses would be favorable but achievement poorer, if the achievement criterion were a test of a conceptual or integrated nature.

(13) Reviews test scores and changes grade

if warranted. Here only a few incidents are reported. It is difficult to believe such faculty behavior is so rare. Possibly what is rare is students asking for grade review. It would appear that willingness to at least review a student grade is a fundamental faculty responsibility. Grade change, of course, would depend on the results of the review. The impact of this faculty performance does not seem apparent as related to student behavior.

(14) Grades papers himself rather than employing a student grader. Only a few incidents, of an obvious kind, are reported—probably because most students do not know how their papers are graded. Again, effects on student behavior are not readily apparent.

(15) Allows adequate time to complete tests. Although a very small subcategory, it is important as will be seen from the ineffective behaviors. The deleterious effects on student performance of failure to allow adequate time to complete tests can be imagined; however, those in a positive direction are somewhat questionable. It could be hypothesized that both achievement and attitude toward the course would be better where adequate time is allowed for test completion.

Ineffective Behaviors

As will be seen, many of the ineffective behaviors are the obverse of the effective behaviors discussd above. However, there are exceptions in both categories in that only effective or ineffective behaviors were reported. As with the effective behaviors, the first behaviors, the first behavioral category is "Personal Relationships With Students," and again the subcategories are presented following their number designation in parentheses.

The first area of complaint is one that probably most people have entered with some teacher. Possibly the behavior is not common, but it does infuriate students as shown by the language used to report the incidents.

(1) Shows favoritism toward some students (athletes, "apple-polishers," reciters, etc.). The effects of this sort of behavior on student achievement have not been tested, but it could be hypothesized that motivation would be seriously affected and, along with it, achievement. From the incidents it is apparent that this sort of behavior is quite easily observed by students, probably more than most teachers would believe or accept. Aside from achievement, it could be assumed that students would lose all respect for such a professor, including those who benefit by the blatant favoritism.

(2) Singles out some students as inferior (discriminates). The behavior described here is where students are told they are "inferior," or in some way such an indication is made for an apparently illegitimate reason. The behavior is not commonly reported. The results of this behavior are probably quite similar to those described in (1) above where the behavior is apparent to the entire class. In the case of single individuals it is likely to be quite demoralizing and generally results in adverse attitudes on both an individual and group basis. An hypothesis would be some personality defect in faculty members who exhibit such behavior.

(3) Ridicules or embarrasses students. This behavior is somewhat similar to those in the subcategories above, but refers for the most part to single incidents and characteristic behavior not directed at any particular individual or group of people. It appears to be a fairly common behavioral event. Granted that students do sometimes ask "dumb" or "stupid" questions, it is necessary to recognize that they do not often do so deliberately. It is also necessary to recognize that some course material may be difficult for an individual student even though most students understand it. Since the presumed intent of teaching is to have students learn, there seems to be no adequate defense for the behavior described above. In terms of student achievement such behavior can hardly have any but adverse effects and, from the tone of the reported incidents, results in contemptuous attitudes toward the teacher involved. It could be hypothesized that any experimental test of such behavior would show rather sizeable effects on both student attitudes and achievement.

(4) Loses control of emotions in dealing with student (shouts, curses, etc.). The behaviors reported refer only to those exhibited in the classroom. Presumably this occurs in other contexts, but it was not so reported in the incidents collected. This is a fairly large subcategory. The general tone of the reported incidents is probably best described as one of disgust at such behavior. It seemingly violates

the "role expectancies" by students and is quite important to them. Such behavior probably would have relatively little effect on student achievement, but would be a major determinant of student attitudes.

(5) Harasses students during tests, reports, lab work, and questions. This behavior seems quite uncommon but again is rather bitterly resented. It is fortunate that it seems rare. Obviously, such behavior on the part of the teacher could only have bad effects on student achievement. In addition, it is probable that students would generalize their attitudes to the entire course and the professor. Such behavior is not in need of experimental test; the studies already reported of behavior under stress are sufficient to show the serious adverse effects of such continued harrassment.

(6) Demoralizes students by threatening punitive action. This behavior refers to both classwork and personal behaviors by students. It seems to be fairly common and the remarks for subcategory (5) above apply here. The constant threat hanging above students appears to be demoralizing and would result in performance decrements. Further, the intrusion into personal preferences is completely unwarranted and probably results in derogatory attitudes by other class members as well as the individual involved.

(7) Does not accept legitimate excuses or explanations. The behavior reported here often is in actual violation of school policy, that there are "legal" reasons for missing classes or quizzes and the requirement is to recognize this by acceptable actions. This is a fairly common behavior and obviously has a direct effect on a student's grade. In addition, setting such an example to students (refusal to comply with school rules) can only have undesirable effects on student attitudes. Such behavior could be corrected by appealing to administration officials, but one student reported he was "afraid" to take any such action. In general, such behavior, apart from the behavioral effects on students, seems totally inexcusable.

(8) Does not know (or attempt to know) students on a personal basis (e.g., by name). This is the obverse of the large subcategory (I-1) reported under effective behaviors but seems a deliberate attempt not to know students on a personal basis. Here again is the plea for individual recognition and the "respect" that it implies. The deliberate attempt not to do so seems rare, and probably has little effect on performance but is likely to have serious effects on interest in and attitudes toward a given professor and course.

(9) Hesitates or refuses to answer questions (inadequate answer). The behavior referred to is that occuring in class and is the largest subcategory here. The comments to subcategory (3) above apply here. Probably many faculty members feel it incumbent upon them to answer any question, particularly those dealing with the course material. However, many professors apparently flatly refuse to answer questions. There is no indication in the reported incidents of inability to answer questions, but it is suspected that this may be a major reason for the refusals. The behavioral effects could be quite serious.

(10) Hesitates or refuses to help students (class or office). The behaviors here refer largely to helping students with regard to classwork, although help with personal problems could be included also. This is a major subcategory. This behavior would have major effects on student achievements and attitudes. It is a certainty in virtually any class that some students will have difficulty with portions of the course material. The refusal to give help to an individual student, no matter how "dumb," is a failure to consider this difficulty plus a serious refusal to accept a major responsibility of teaching—making every reasonable effort to ensure student learning. A probable teacher correlate here is a real lack of "empathy" for students and probably stems from some fairly serious personality defect.

(11) Dogmatic and inflexible (belittles students in general). The behavior here is usually exhibited in the classroom situation. The meaning is a refusal or inability to see any other viewpoint and using personal denigration of students as a way of argument. The behavior described here appears to be that of the typical "authoritarian personality." Probably this would have relatively minor effects on student achievement but would stifle any interest in the course and material as well as arousing fear and contempt in students. The implication is a feeling of superiority that enables one to teach students in contrast to helping students learn.

The total category probably describes teachers who are victims of some serious personal inadequacies. In consequence, they show fear and distrust of students or, in the extreme case, outspoken contempt for them. Unquestionably student behavior can be quite irritating or frustrating at times, but the behaviors described above appear to carry the implication that this is true of all students all the time. Too, there is the lack of "empathy," seemingly a real inability to appreciate the student world and its problems. One might even go so far as to infer not only a lack of concern but also an actual overtly hostile attitude toward students.

It does not seem difficult to see how such teachers could have very bad effects on students; in particular, the creation of a "stifling" atmosphere could be considered serious from many points of view.

Occurrence of the above behaviors seems to offer a major reason for the evaluation of teaching performance by students. They are the only persons likely to see these actions, and it would appear that there would be fairly substantial agreement that they should be corrected if verified.

The second ineffective behavior category is "Classroom Administration" and, to a large degree, the reported behaviors are the reverse of those in the same category under effective behaviors. However there are some unique exceptions:

(1) Meets class irregularly or not at all (special sessions); leaves lab. This is the largest subcategory, the indication being that the behavior is fairly common. This finding needs no comment as to the possible adverse effects.

(2) Frequently comes to class late.—This is also common behavior. This behavior is also related to (4) below: professors who are habitually late for class also tend to keep students overtime. The effects of this on student achievement probably are minimal, but the student irritation is not. The lack of consideration for students very likely results in poor attitudes toward both the professor and course, and certainly seems a needless frustration. Almost everyone will be late for class on occasion, but being late for every class seems uncalled for; no "absent-minded professor" is that absent-minded. The general hypothesis would be of a slipshod approach to the course; in fact, some students added to their incidents such comments as, "then he didn't teach anything." This would appear to be an objective behavior that could be a key to evaluating teacher effectiveness, speculative at present but a possible performance criterion.

(3) Permits classroom disturbances, lack of attention. This is a very small subcategory and does not seem to be a generalized behavior, as do the two subcategories above. There are likely to be only a few professors who would allow such student behaviors as reading newspapers in class or talking while the professor is talking [incidents reported]. However, the adverse effects on student performance, if allowed, seem quite apparent.

(4) Consistently lectures overtime. As mentioned above this behavior is related in many cases to (2)—that is, the professor is late for class and goes on lecturing past the end of the class period. The comments under subcategory (2) apply here.

(5) Fails to state objectives and overall purpose of the course. This represented a very small subcategory. The incidents were fairly apparent: a failure to describe what was expected of students. Obviously, such failure can have important effects on student learning: they do not know what it is they should learn. In terms of experimental testing it is possible that such behavior could seriously affect student achievement.

(6) Makes false statements regarding course requirements and what is expected of students. In this subcategory a variety of incidents occurred dealing with statements to both individuals and the class as a group. The behavior seems to be common. In many cases the professor "forgot" and, although it is difficult to believe, many of the behaviors appear to be intentional. Such actual behaviors on the part of faculty members seem to be completely indefensible in that student performance can be seriously affected by them. Misunderstandings of one sort or another inevitably will occur between faculty and students, but the behaviors reported seem to be deliberate distortions of intentions. Such actions can only have adverse effects on all facets of student performance, both in immediate and long-term results.

(7) Monopolizes student time with excessive or irrelevant assignments. This is a fairly common student observation. The judgment is to some degree subjective on the part of the student, but some of the incidents offer objective evidence that students can evaluate the behavior accept ly. In the reported incidents students remarked how one course often monopolized their time with the consequence that other courses had to suffer, an actual statement of effects on student achievement. Such teacher behaviors amount to putting students in a stress situation with the possible effects discussed previously. While there is some element of value judgment in student reports of this behavior, it would seem incumbent upon any teacher to make reasonable assignments.

(8) Gives no exam before drop date. The behavior reported here is rare. This category centers around the "business like" classroom administration that was discussed in the same category under effective behaviors. It seems to reflect a lack of preplanning of the course to be taught, along with an indifferent attitude to both the course and the students. The tone of the reported incidents indicates that students are resentful of the reported behaviors—particularly where they are misled or, as some said, "lied to." In addition, these incidents comprise about 10 percent of the total ineffective incidents reported, an indication that slipshod, indifferent classroom administration is by no means uncommon. It is possible that a planned program evaluating teaching effectiveness could have a major salutory effect here; often people behaving in the ways described are not aware that they are doing so until it is brought to their attention, nor do they realize the real impact of their actions. A regular report of such behaviors, occurring repeatedly, could be a large step toward improving the teaching of a given individual.

The third category is "Student Participation," as it was for the effective behaviors. As will be seen the behaviors here are largely verbal discouragement to students in their attempts to "participate" in either class policies or course conduct. The behaviors are not common.

(1) Does not permit class discussion of scheduling quizzes or assignment due dates. Apparently the usual behavior here is to set an agreeable date when changes are necessary, and only rarely is an arbitrary assignment made.

(2) Does not permit class discussion of material or opinion. This behavior represented virtually all the incidents reported in this category and centers around professors lecturing and never asking or allowing for questions, or actually refusing to allow questions or discussion. The effect of such behavior on student achievement is probably not major, but in terms of student interest and attitudes it undoubtedly has severe effects. Fortunately, the behavior seems to be rather rare, particularly the overt discouragement of student participation.

The fourth ineffective behavior category, "Classroom Presence" is one where the most noticeable differences occur in ineffective versus effective behaviors. They are not, in general, the reverse of each other but seem to be separate sets of behaviors. This is the second largest category of ineffective behaviors. Most of the behaviors reported are not critical incidents in the technical sense but are in the nature of habitual behavior.

(1) Objectional dress, manners, and appearance. Here were reported a very heterogenous set of behaviors mostly of an "irritating" nature. The behaviors reported probably have little, if any, effect on student achievement, but almost certainly affect student respect for the faculty member. In actuality, such behavior shows a disrespect for students which is probably reciprocated.

(2) Displays nervousness; is ill-at-ease when talking (e.g., paces floor, easily flustered). This seems to be a rather rare behavior and probably, as above, is just "irritating" to students rather than anything else. Practically all of the incidents described random "pacing" around the room. It is doubtful that such behaviors have any serious effects on students.

(3) Talks or presents material too rapidly. This is a fairly common behavior. The behavior seems habitual and is related to category I-9, not stopping for questions or any discussion. All of the incidents involved talking or writing so fast that students were unable to take notes and/or comprehend the material. Effects of this behavior on student achievement are easily understood, and students unable to keep pace with the presentation are therefore at a real disadvantage.

(4) Lectures in a rambling, disorganized fashion. The behaviors reported are dependent to some degree on subjective opinion. A meaningful measure would be some 75 percent of the class members agreeing that the behavior did, in fact, occur. Again this behavior is not an incident in the strictest sense but seems to be habitual. The behavior reported was rare, but it can easily be imagined that such a disorganized presentation would be confusing. Probably students who did not attend such a class would achieve more than those who did. Again the personal characteristics of such teachers would be of particular interest.

(5) Speaks inaudibly or mumbles. This is a large subcategory. The title is self-descriptive; in essence, students reported they could not hear the lecture. The effects of this on student achievement needs no comment.

(6) Lectures in a monotone. Again a large subcategory and, as before, the title describes the incidents. The most commonly reported student reaction to this was to go to sleep. Very likely this has serious effects on several aspects of student achievement, mainly because of lack of concentration and interest.

(7) Has difficulty speaking English. This rather large subcategory needs no comment.

(8) Does not look at students during lecture. This is a small subcategory. It is difficult to assess the effect of such behavior on students. This kind of habitual behavior unquestionably irritates students and distracts them, but there were no statements to indicate actual effects. Several students attributed the behavior to a lack of interest in them or the job, but such an inference is completely speculative.

(9) Reads the majority of lectures from book or notes instead of just referring to them. This is by far the largest subcategory. The title is a literal description of the incidents—direct reading from the text or notes with no attempts to embellish the material in any way. Any effects on student achievement would be a moot question, but there is no question that students resent such presentations. Many of the students point out that class attendance is a waste of time since they too can read, but usually these professors require class attendance. Students also infer a real lack of interest in or contempt for them and the course, but there is no evidence to support such inference.

(10) Uses profane language constantly. This is a very small category. The behavior is quite offensive to at least some students; in fact, one student dropped a course because of "constant cursing." Effects of this on students probably would be quite selective; that is, some would find it offensive and probably dislike the course, whereas others might actually enjoy such usage.

The fifth category, "Organization and Presentation of Material," again presents incidents that differ considerably from the effective incidents under the same category. Often, it seems, a lack of knowledge of the course material is involved, although this is rarely directly mentioned.

(1) Does not cover all of the course requirements. These incidents are mainly where the course is one of a sequence and are not technically incidents but summaries of total behavior. Only a small number was reported. The implications of the behavior described for student achievement are obvious.

(2) Wastes class time on trivial detail and/or subjects unrelated to course objectives. The behavior is fairly common. Students reports are quite critical. They resent the waste of time, particularly when it involves teachers' personal problems. Many also report being tested on material not covered. Such behaviors may help to some degree in establishing "rapport" with students but from the number and tone of reported incidents this is carried so far that students feel it has serious effects on their achievement.

(3) Repeats material to the point of monotony (same lecture in different courses). Only a small number of behaviors are reported here. The general tenor of students' remarks center, quite understandably, around the loss of interest in the course. There is probably a major effect on achievement also, although this would need investigation. The point of using the same material for different courses reflects sheer lack of responsibility on the part of an individual faculty member and is so remarked by the students.

(4) Lectures above students' level of understanding. This is a small subcategory and probably is more subjectivity-laden than any of the other evaluative statements determined by the

reported incidents. Again, if this is to be taken as characteristic of a given professor, an indication of the number of students reporting it from a given class would be required, perhaps 75 percent. A class conducted in the manner described in the incidents reported would undoubtedly have adverse effects on students from any point-of-view. In particular, where the difficulty is called to the attention of the professor, any continuation of the behavior is inexcusable.

(5) Unable to work problems or answer questions. This is by far the largest subcategory. In contrast to refusal to answer questions, the professor is unable to do so. The inferences, or students' statements, were to the effect that this was a result of incompetence in the field of study. From the reported incidents there seems to be some factual basis for this. The behaviors reported are likely to have serious effects on all student behaviors. The inability, for whatever reason, to present the course material correctly in addition to hindering learning could result in wrong learning, which is even more serious.

Further, the behavior seems to be more common than one would surmise and could have many adverse effects on students.

(6) Gives erroneous information. This is not a commonly reported behavior, possibly because students do not recognize it in some cases. The behavior is in contrast with that directly above in that questions are answered or information is given that is incorrect. Often a deliberate attempt to "cover" ignorance is implied. Certainly the kind of behaviors reported here must have adverse effects on both student learning and attitudes. The personal correlates of this rather uncommon behavior need to be determined. It certainly is inexcusable in the teaching situation.

(7) Does not or refuses to explain course material. This behavior may or may not be related to the two subcategories above. In some cases students implied that lack of knowledge was the basis for such behaviors, but also there is another point, an assumption of learning or understanding that students did not really have. This was a relatively rare behavior as reported by students. The possible effects on student achievement seem apparent.

(8) Forces students to shoulder burden of gaining subject matter knowledge. This behavior is similar to that reported above, but here the attempt is deliberate, or at least students see it as so. There is, of course, some responsibility on the part of students to learn material, and the point at which professor-student responsibilities interact is vague. However, students do make this judgment and it is fairly common. In addition, the behavior seems to be habitual and often appears to be deliberate, possibly related to the hostility toward students previously discussed. Again, the undesirable effects need no comment.

(9) Lectures do not contain any material not fully explained in the book. Only one student reported this, possibly because it is covered in the other subcategories in this section.

(10) Hurries through course schedule without regard for student understanding of material. Here only a few incidents were reported, and are related to categories I-9 and I-10—that is, not answering questions or giving help because there is not time to do so. As with those categories, the unwanted effects upon students seem obvious.

(11) Lectures consist of copious blackboard notes. Only two incidents were reported, indicating behavior that is quite uncommon and whose effects would be moot.

(12) Stresses theory without explaining applicability. This is a fairly common behavior and seems most noticeable with regard to student testing. Here again there is a fine line as to a given professor's responsibility for guiding students. The incidents cited imply no guidance whatsoever in the use of the course material—which seems to be at one pole, the other being "leading by the hand." There were no incidents, effective or ineffective, regarding the latter and, for evaluation purposes, probably only the extreme behavior could be used. This would appear to be a rather difficult behavior to assess in terms of effects on student performance, especially achievement, since the better students would be likely to learn in spite of such behavior.

(13) Unprepared for class. This is a rather common behavior and involves some degree of value judgment on the part of students. Some teachers could be "unprepared" for class in the literal sense and still give a meaningful presentation because of their knowledge of the subject matter. The distinction is likely to be made

on some personal correlate of ability to deal with such a situation, that is being unprepared and still presenting a worthwhile lecture.

The behaviors reported appear to stem from two sources. First, there is a lack of competence in the subject matter, just plain not knowing the material. Second, there seems to be a lack of effort to meet some minimal teaching responsibilities such as not preparing lectures, rushing through the material, or ensuring that students are grasping the material. It is possible that some of these behaviors stem from a given teacher not being aware of just what is occurring, but some of the behaviors are quite deliberate, e.g., referring students to the book and refusing to explain.

The distinction is vital because in the one case it would be possible to point out and correct these ineffective behaviors but, in the other, any remedial efforts are likely to be resisted. Certainly the detection and alteration of such behaviors seem desirable objectives, since the behaviors described can hardly have anything but negative effects on students. Probably the only way to attain the objective is through some systematic student reporting method; single or sporadic student reports tend to be discounted.

"Evaluation of Student Performance" is the largest category among the ineffective incidents, and beyond question the most emotion laden on the part of students. Since grades are the criterion in evaluating undergraduate performance, this reaction is quite understandable. Indeed it is patent that grades are what guide student learning in most cases rather than any consideration of intellectual or personal development. No matter what one may think of this situation, the fact is that people tend to show behavior which is rewarded; in this case, by grades. If some other behavior on the part of students is desired, it will be necessary to develop the appropriate criteria to elicit such behavior.

(1) Tests students on material that was not assigned. This is the second largest subcategory of the reported incidents. Some degree of student judgment is obviously involved in assessing this behavior, but the fact that such judgment can be made seems real enough in view of the number of incidents reported. The general effects on student achievement, not to mention attitudes, are so patent as to need no comment.

(2) Tests do not include material emphasized (covered) in class and/or reading assignments. This behavior is different from the above in that the professor's emphasis in class, or deliberate statements, lead to false expectations by students as to the probable content of tests. There does not seem to be a deliberate attempt to mislead in most cases, but the ultimate effect is the same. This is the largest subcategory of the incidents. Such behaviors can have no justification, but it is of interest that they do occur and so frequently. The needed research again appears to center around the correlates of such behavior on the part of faculty members. There is a possibility of some student-professor misunderstanding, in at least some cases; but there also appears to be some disorganization or lack of course planning, particularly with relation to course objectives. Whatever the cause, there is both a serious effect on possible student achievement and a rather bitter resentment on their part.

(3) Tests either exceed the difficulty level of the material or are too easy. There is a difficulty in accurately judging this behavior. An interesting point is that students reported "too easy" tests; there does not appear in the incidents any particular reason for these reports. The teacher behavior here possibly can only be assessed by extreme cases, e.g., "everyone flunks or passes." Such behaviors show achievement effects and probably seriously demoralize students where the tests are much too difficult. At either extreme, the responsibility of the professor to take corrective action is apparent.

(4) Tests require memorization rather than demonstrating knowledge of principles or ideas. This is a fairly large subcategory and seems to involve student recognition of what the "real intent" of education may be. There is also some connotation of students' being treated as adults by appropriate testing. In evaluating this behavior some fine, possibly impossible, distinctions might be required except in the most extreme cases. A knowledge of facts is indispensable to at least some degree, and measurement of the effects on students here is fraught with all sorts of difficulties, particularly some defini-

tion of parameters. Any hypothesized effects on student behavior are much too speculative to consider with the information available.

(5) Time to complete test is inadequate. This is a small subcategory. There is very likely wide student variation in reporting such behaviors, which is probably closely tied to student ability. In addition, this could be used as a psychometric device where only the more able students finish the quiz and grading is thus made more defensible.

(6) Uses same test questions every year. Here the complaint is actually that some students obtain copies of a repeatedly used test and thus grades are unfair. Obviously, precautions need to be taken to avoid such a contingency; however, only a few incidents were reported of this event.

(7) Refuses to (does not) discuss or explain returned assignments, tests, projects, or grades. This behavior is reported fairly often and mainly involves student complaints that, in not knowing what they do wrong, they have no way of learning the correct things: the tone of the incidents (along with somewhat colorful descriptive language) leave one in no doubt that the behaviors as reported are infuriating to students. Not only is their achievement wrongly judged, but the professor arbitrarily refuses to correct some obvious injustices. There is no indication as to the motivation for this sort of behavior on the part of faculty members; however, there does not seem to be any adequate defense for it.

(8) Does not comment on returned papers (tests). To some degree this behavior is related to that described above. The only real difference here is that professors do not refuse to give the bases for grading. Students resent such behavior. The incidents are obvious but not quite as blatant as those above. This failure to inform, rather than refusal, is merely one of degree and is equally difficult to understand. In both cases the student is put in the position of being wrong but without knowing why. Both categories are possibly related to the authoritarianism discussed previously.

(9) Returns papers late or not at all. Here a fairly substantial number of incidents was reported. The behavior does not seem to be a deliberate attempt to evade explanation but more in the nature of failure to recognize student interest, possibly because of "lack of time." Students appreciate the possible effects of this behavior on their achievement—the inability to improve if you do not know what it is you are doing wrong. In addition, there is considerable amount of emotional overtone, incidents of calling names or commenting. Such comments seem fully justified.

(10) Does not grade quizzes or assignments. Only nine incidents were reported and with obvious behaviors, as giving a quiz but not collecting the papers. This behavior is difficult to explain but it is not difficult to imagine adverse effects on students, especially a lack of interest.

(11) Grades on classroom participation only. Only one incident was reported in this subcategory, although such participation is apparently graded in part in many classes. An interesting point is just how this student behavior is graded.

(12) Grades on irrelevant characteristics (dress, major, sex, own biases, etc.) If any one aspect of professorial behavior is seen as indefensible by students, this is it. Even the recipients of the favorable treatments seem to resent it. Fortunately, it seems to be relatively rare. This behavior seems to puzzle students as much as anything else. For many it seems this is their first encounter with such an arbitrary reaction. It seems to evoke contempt for persons showing such behaviors, but effects on achievement are not reported, possibly because most such behaviors are after the fact, i.e, final grades.

(13) Grades on class attendance. Incredible as it may seem, some professors seem to give grades only on class attendance. Further, these incidents represent almost 10 percent of the category where either all or a major portion of a student's grade is a result of his class attendance. The effects on student achievement of this policy are not obvious but there is no doubt of the resentment at such arbitrary behavior. Often it is in clear violation of school policy. Possibly this is also a substitute for an interesting course; some student comments make this appear to be the case.

(14) Grades on final exam only. Students feel that this is unfair. Very likely they are right in that the reliability of such a test is likely

to be low and, further, other work of any quality goes for nothing. There is little question of the effects on student attitudes of this behavior; but, in terms of achievement, this would be difficult to predict.

(15) Grades are not in accord with test scores. This is not common, but is bitterly resented. Often it is after the fact and the student has little in the way of recourse. One is reluctant to believe it, but in some reported incidents there is the connotation that such grading is directed at a particular individual. All grading leaves something to be desired in terms of reliability; but with quantitative evidence available, a student receiving an unjust grade, there seems to be no explanation other than personal discrimination. Since this usually occurs after the fact, effects on achievement are nil; but one cannot help wondering about the campus reputations of such professors. Students do know other students' grades.

(16) Does not give credit for partially correct answers. Probably all faculty members have had the experience of haggling with students about the correctness or incorrectness of answers, and this probably is an important motivator of the decision to score right or wrong and no haggling. However, students do list the behavior and consider it capricious. The incidents reported obvious behaviors and are somewhat subjective. It would be most difficult to evaluate this behavior accurately because of its subjectivity, and its effects on students are equally difficult to predict. However, in terms of frequent mention, it seems to be a teacher behavior that is in need of investigation.

(17) Passes and/or fails, or gives grades to a predetermined percentage (or large percentage) of students in class. This behavior seems to come from some arbitrary standards (seen as absolutes) by some professors. Even before the class starts a grade distribution is known. It is a fairly common behavior. Restrained, unemotional comment here is difficult. Certainly the effects of such behaviors on students must be most demoralizing and discouraging. They recognize the complete arbitrariness of such behavior (but not the ignorance behind it), and the incidents have a note of being close to despair. It would seem incumbent upon any administration to stop such behavior on the part of faculty members; even academic freedom is not an absolute.

(18) Does not curve grades. Here the implication is similar to the above, e.g., arbitrary grades; but there is not the tone of vindictiveness or hostility exhibited. The professor seems to consider his evaluation of student performance as infallible; however, students do not agree. Again the extreme effects on student behaviors seem apparent.

(19) Does not check the accuracy of student grader. This incident was reported only three times and had to do with a student seeing that his grade was wrong. Probably some such mistakes are unavoidable even where an attempt is made to check scoring.

(20) Makeup tests are made excessively difficult. Only three incidents were reported here. All were subjectively stated so that it would be difficult to determine exactly what did occur; however; such a possibility does exist in view of some of the behaviors reported above.

(21) Gives no quizzes and/or final. Here again only three incidents were reported, but it is a puzzle how meaningful grades can be assigned in such a course. Effects on students cannot even be imagined.

(22) Refuses to change an incorrect grade. This behavior refers to incidents where the students clearly did not deserve the grade given.

These reports, fortunately, are isolated but the effects on individuals can be serious or even traumatic. The students reporting them did so in emotional tones, and probably no one would defend such behavior on the professor's part. Again this sort of behavior would seem to spring from some basic personality defect on the part of the teacher.

The last major category under the ineffective behaviors is unique to the set, "Interest in the Job Teaching." It is a small category, and it is hoped that the behaviors are as rare as this might indicate.

(1) Makes derogatory comments about teaching. This is behavior that indicates a real dislike for teaching apart from any other interest or consideration. Here only three incidents were reported, with little in the way of student evaluation. The effects on student performance and attitudes are obscure.

(2) Belittles value of the course he is teaching. This behavior represents about a third of the total category incidents, and seems largely to result from a person teaching a course at department direction. Hopefully, it will never be known what effect this factor may have on student behavior, because no one would want to experiment with it as a major independent variable and it is so uncommon that it would not appear regularly enough to be evaluated. However, it probably has quite serious effects on both achievement and attitudes when it does occur.

(3) Criticizes fellow teachers. Only two incidents were reported in this subcategory, and these were rather subjective. Probably most of this behavior, where it does occur, is not done publicly. In general, it would seem to have little or no effect on students.

(4) Primary interest is consulting or research. This behavior is taken from direct statements by professors where they indicated to students that classroom teaching was detracting from their real interest. Actually such behaviors are a direct insult to students and, in a sense, a confession of a distorted approach to their own life adjustment. Probably most faculty members have more or less lengthy periods where classroom teaching has seemed onerous, but here is the admission of "just doing it for the money" instead of working in one's field of interest. This behavior may have little or no effect on student achievement but does evoke vigorous resentment and a recognition of the fact of being "used." Again this seems to be stretching "academic freedom" beyond any reasonable point.

The behaviors reported under the ineffective incidents, in general, could hardly have anything but undesirable effects on student achievement or attitudes or both. Probably one of the more undesirable effects would be the generalization of such attitudes to form a stereotype of college faculties. As far as the author is aware, there is no evidence to support this, but the behaviors reported above seem sufficient to warrant comprehensive investigation of just what is occuring in college classrooms.

Many faculty members tend to dismiss student complaints as somewhat exaggerated, coming from a few disgruntled persons, or even as purely imaginary. From the data here it would appear that there is a broader basis for student complaint than has been assumed; ineffective behavior reports actually exceed effective ones.

Some student complaints or protests are undoubtedly a result of personal views or idiosyncracies; but for the most part, those reported here are factual events that actually occured. In addition, there are a great many of them covering a wide range of behavior. It can be submitted that there is sufficient evidence that a planned program of faculty evaluation should be a basic requirement if students are to receive adequate classroom teaching.

EVALUATIVE QUESTIONS FOR ASSESSING TEACHING PERFORMANCE

A series of evaluative questions for assessing teaching performance has been developed, using as a base the effective and ineffective teaching behaviors identified in the foregoing section. The intent is to present the student with so-called "action statements" for evaluation.

The questions are categorized under headings; however, in the actual use of an instrument developed from these questions, it would be better to eliminate the category headings and present the questions in random order. The question format is of a Yes-No type asking whether or not the behavior occurred. In some cases one question incorporates both the effective and ineffective behavior, that is, the behaviors are mutually exclusive—if one occurs the other cannot. In other cases only single questions are presented where only the effective or ineffective behavior was reported.

It is presumed that any actual form based upon the questions below would be headed with a statement such as, "Did the professor in this course:"

Evaluative Behavioral Statements

	Yes	No
I. Personal Relationships With Students		
1. Know or attempt to know student's names?	____	____
2. Talk with students before and/or after class?	____	____
3. Hold social events for his students?	____	____
4. Give advice or assistance at student request (class or office) with personal problems?	____	____
5. Discuss (answer questions on) extraclass issues?	____	____
6. Compliment students on good answer?	____	____
7. Encourage (answer) all questions in class?	____	____
8. Treat all students equally (regardless of sex, major, etc.)?	____	____
9. Ridicule, "ride," or otherwise embarrass students (either on questions or their performance)?	____	____
10. Encourage or give individual help with course material (class or office)?	____	____
11. Lose control of himself in class (shout, curse, show anger, etc.)?	____	____
12. Bother (harass) students during recitation, quizzes, etc.?	____	____
13. Make threats concerning classwork or personal behavior?	____	____
14. Accept legitimate excuses, explanations (as for missing quiz)?	____	____
15. Refuse to listen to or recognize other viewpoints in class?	____	____
16. Say or indicate in some way that students are inferior?	____	____
17. Provide special "help" sessions for course material (individual and/or class)?	____	____
II. Classroom Administration		
1. Meet all scheduled (rescheduled) classes?	____	____
2. Arrive on time for all classes?	____	____
3. Inform class if he would be absent?	____	____
4. Discuss quiz dates or deadlines for student convenience?	____	____
5. End lectures at end of classtime?	____	____
6. Distribute a course outline or study plan (course objectives)?	____	____
7. Follow course outline or study plan?	____	____
8. Give examples of quiz items?	____	____
9. Require and grade homework?	____	____

	Yes	No
10. Return papers and quizzes promptly?		
11. Permit classroom disturbances (such as students talking to each other)?		
12. Make false statements concerning course requirements (number of cuts, grading, etc.)?		
13. Give excessive work?		

III. Student Participation

1. Ask student preference as to topics covered?		
2. Ask students to critique his teaching?		
3. Schedule quizzes, deadlines, etc., at the convenience of the class majority?		
4. Encourage (ask for) discussion, questions, or student opinions?		
5. Ask questions to determine class (individual) understanding of course material?		

IV. Classroom Presence

1. Appear well groomed?		
2. Speak clearly and distinctly:		
A. Mumble?		
B. Talk too softly?		
C. Talk in a monotone?		
3. Use dramatic gestures (phrases) to emphasize important points?		
4. Use humor in lecture to illustrate points?		
5. Read lectures from notes or book?		
6. Appear nervous, ill-at-ease during lecture?		
7. Talk or present material too rapidly?		
8. Give rambling, disorganized lecture?		
9. Look at students during lecture?		
10. Use language students understand?		
11. Use profane language excessively?		

V. Organization and Presentation of Material

1. Begin class with a review of previous work?		
2. Stress, in some way, important points in the material?		
3. Use current, pertinent, and/or personal examples to illustrate point?		
4. Show usefulness of material in "real world"?		
5. Admit not knowing answer to a question?		
6. Use outside references to supplement course?		
7. Distribute handouts/notes to supplement lecture?		
8. Use visual aids to supplement lecture?		
9. Provide for field trips?		
10. Have guest lecturers?		
11. Have full command of the subject matter?		
12. Give lectures different from (supplement) text?		
13. Cover all course requirements?		
14. Avoid trivial detail?		

15. Answer questions; work problems if requested? _____ _____
16. Lecture over students' heads? _____ _____
17. Give erroneous information about course material? _____ _____
18. Refuse to explain material? _____ _____
19. Make students learn "on-their-own"? _____ _____
20. Follow course schedule? _____ _____
21. Prepare for class? _____ _____

VI. Evaluation of Student Performance

1. Base tests on relevant (covered) material? _____ _____
2. Base tests on knowledge or principles rather than memorization? _____ _____
3. Base tests on emphasized material? _____ _____
4. Make tests too easy or difficult? _____ _____
5. Schedule quizzes at regular intervals? _____ _____
6. Allow adequate time to complete tests? _____ _____
7. Comment on (correct) returned papers, quizzes, etc.? _____ _____
8. Excuse high average students from final? _____ _____
9. Permit extra work to improve grade? _____ _____
10. Disregard lowest test score in grading? _____ _____
11. Use same tests every quarter? _____ _____
12. Refuse to explain grading system?* _____ _____
13. Tell how students are to be graded? _____ _____
14. Curve grades either: _____ _____
    A. To compare individual performance with class performance? _____ _____
    B. To reduce student grades? _____ _____
15. Return all papers and quizzes? _____ _____
16. Grade all quizzes and assignments? _____ _____
17. Give makeup tests at individual convenience? _____ _____
18. Grade on such things as major, sex, athlete, etc.?* _____ _____
19. Grade on class attendance?* _____ _____
20. Give final grades in accord with test scores?* _____ _____
21. Grade on final exam only? _____ _____
22. Pass/fail a predetermined percentage of the class? _____ _____
23. Try to have makeup tests excessively difficult? _____ _____
24. Change a clearly unfair grade?* _____ _____
25. Consider effort, participation, application in assigning final grade? _____ _____
26. Use student to grade work?

VII. Interest in Job of Teaching

1. Make derogatory comments about teaching? _____ _____
2. Make derogatory comments about the course? _____ _____
3. Indicate he would rather consult and/or do research than teach? _____ _____
4. Criticize fellow teachers? _____ _____

** This item would have to be answered after the student received his final grade. The major difficulty here would be administrative, that is, submitting the question to students after the course is over and having it returned. A suggestion might be to give students the questions during the final examination and ask them to complete and return the form after they have received their final grade. Returns and their representativeness are problematical.*

The items presented above can be accepted with some assurance as covering the major effective and ineffective teaching behaviors because of their close resemblance to those developed by Koingsburg (1954) and Douglas (1968). These are the teacher behaviors of concern to students with regard to teacher effectiveness. The basic incidents for the three studies have been collected in widely separated parts of the country, from a wide variety of students, and over a long period of time. Despite this disparate collection of critical incidents, there is a quite close resemblance in the reported teacher behaviors.

In general, the three items lists offer a "pool" of behavioral items adequate to assess all of the varied aspects of effective and ineffective teaching behaviors rather than using ratings.

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